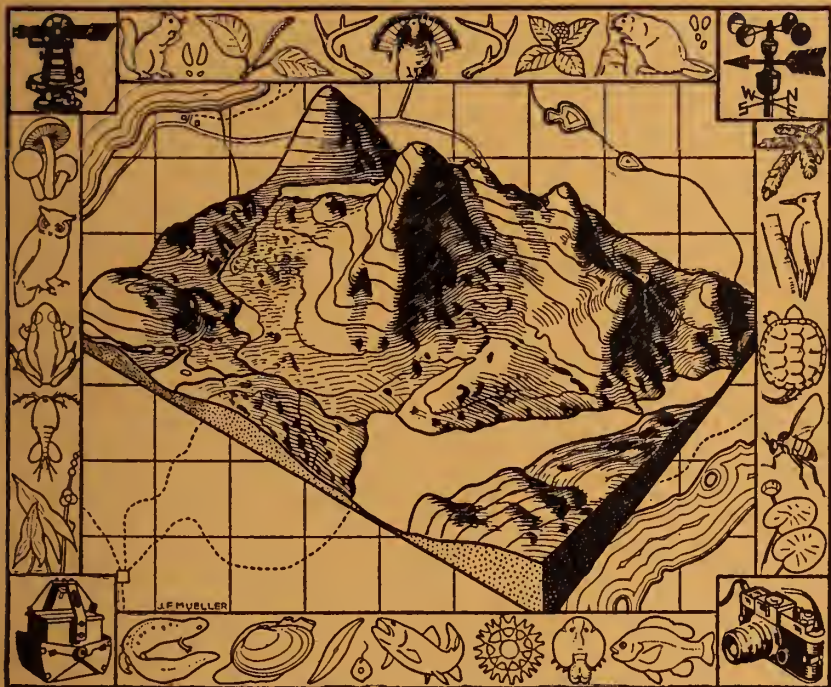


# ANNOTATED LIST OF THE MOSSES OF THE HUNTINGTON FOREST

By

HAROLD F. HEADY



## ROOSEVELT WILDLIFE BULLETIN

VOLUME 8

JUNE, 1942

NUMBER 2

Roosevelt Wildlife Forest Experiment Station

New York State College of Forestry  
at Syracuse University, Syracuse, N. Y.

Samuel N. Spring, Dean



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# ANNOTATED LIST OF THE MOSSES OF THE HUNTINGTON FOREST

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## INTRODUCTION

This annotated list of the mosses on the Archer and Anna Huntington Wildlife Forest Station<sup>1</sup> brings together the available records of the moss flora of the area. The list is designed specifically for those students interested in the mosses on the Huntington Forest from either a scientific or an aesthetic viewpoint, and it will also serve as a basis for further study of the mosses on the area.

The Huntington Forest is a wildlife experimental area held in trust by Syracuse University for the New York State College of Forestry. It is a rectangular 15,000-acre tract of land located in the central part of the Adirondacks in Essex and Hamilton counties near the village of Newcomb, New York.

The range of altitude on the Huntington Forest is from 1,560 feet above sea level at Lake Belden to 2,693 feet at the summit of Goodnow Mt. There are several precipitous rock faces with talus beneath, but in general the slopes are moderate. The valleys are relatively broad with slow-flowing streams and numerous swamps. Five lakes and one reservoir are all members of one system, draining toward the south-east corner of the Forest.

The soils on the Huntington Forest are mostly sandy as a result of the accumulation of glacial till and weathered granite. This type of material coupled with low temperatures, high rainfall, and forest vegetation has led to the development of a podzol profile in most of the soils on the Forest. In certain areas of mixed coniferous and hardwood forest mull types of humus are present. Many of the valleys contain poorly drained depressions partially filled with muck or a mixture of muck and fine mineral particles. As these soils have developed in a region glaciated during the last advance of the ice, extreme variations in texture, depth of soil, and types of material may be found in small areas. The substrata supporting mosses are of five general types:

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<sup>1</sup> Hereafter referred to as the "Huntington Forest" or "Forest".



exposed sand and rocks along roads and cliffs; decaying organic matter in the forest; mucky areas in poorly drained depressions; the bark of living trees; and on various objects in water.

Data concerning temperature, precipitation and other atmospheric phenomena are available from the Forest for all days since July 1, 1940. Monthly summaries of temperature, precipitation, and wind direction since then are given in Table 1. The highest temperature during this period was 93° F. in June 1941 and the lowest - 28° F. in December 1940. There was a frost-free period of 122 days in 1941.

The climax forest of the mountain slopes of the Huntington Forest is characterized by beech (*Fagus grandifolia* Ehrh.), yellow birch (*Betula lutea* Michx. f.), sugar maple (*Acer saccharum* Marsh.) and hemlock (*Tsuga canadensis* (L.) Carr.). Mountain tops, poorly drained areas, lake shores, and many coves subject to cold air drainage have red spruce (*Picea rubra* (DuRoi) Dietr.) and balsam fir (*Abies balsamea* (L.) Mill.) mixed with the beech, birch, maple, and hemlock or less frequently these occur in pure stands. All the trees occur in mixed stands in which the proportions of the individual species vary to an extent that "clear-cut" types are difficult to delimit. The abundance of spruce and fir, climax trees of higher elevations or more northern latitudes than the Huntington Forest, indicate that the Forest is located in a transitional region between the spruce, fir climax of the north and the beech, birch, maple, hemlock forest of low Adirondack altitudes. Witch hobble (*Viburnum alnifolium* Marsh.) and wood sorrel (*Oxalis montana* Raf.) are the dominant understory species. Clearing for agriculture and later abandonment has resulted in an establishment of stands dominated by northern white pine (*Pinus strobus* L.) in two areas, and white ash (*Fraxinus americana* L.) in one area.

Selective logging of the coniferous trees, especially the red spruce, has favored the development of the beech, birch, maple and hemlock in stands that previously contained a high percentage of red spruce.

Two large areas, one near the north end of Catlin Lake and the other near Deer Lake, were denuded by fire in 1903. In these areas aspen (*Populus tremuloides* Michx.) and bracken fern (*Pteridium aquilinum* (L.) Kuhn var. *latiusculum* (Desv.) Underw. ex Heller) are dominant.

Mosses are common in nearly all types of habitats on the Huntington Forest and they play an important rôle in soil formation. They hold the soil against wind and water erosion and decrease the run-off by their habit of growth in loose spongy cushions which have a high mois-



TABLE 1. PRECIPITATION, TEMPERATURE, AND WIND DIRECTION AT THE HUNTINGTON FOREST.

MONTH	Precipitation Inches		Mean Temperature Degrees F.		Direction of Prevailing Wind	
	1940-1941	1941-1942	1940-1941	1941-1942	1940-1941	1941-1942
July.....	5.44	5.59	65.8	67.9	west	north-west
August.....	1.89	3.25	63.1	61.3	north-west	north-west
September.....	3.78	2.81	55.5	59.2	north	north-west
October.....	2.30	4.50	42.4	45.4	north	north-west
November.....	4.07	2.80	32.3	36.1	north	north-west
December.....	5.72	2.32	21.0	23.4	north	north-west
January.....	3.38	2.75	13.4	15.6	north	north-west
February.....	2.04	2.94	16.3	14.5	north	north-west
March.....	3.27	4.01	21.5	31.7	north	north-west
April.....	2.42	4.34	45.5	43.7	east	north-west
May.....	2.10	3.45	55.1	57.1	north	north-west
June.....	1.82	3.17	63.9	62.2	north	north
Total.....	38.23	41.93	....	.....	.....	.....

ture-holding capacity. They are the food of many small animals and the home of many more.

Many species of mosses are the pioneer invaders of worn-out or newly exposed mineral soil. *Funaria* occurs in large pure stands along the sandy banks of new roads, and *Pogonatum* and *Atrichum* are common if loam or clay is present. *Polytrichum* is commonly intermingled with herbs and grasses in clearings where a small amount of organic material is present in the soil, and where the soil is subjected to a summer drought period. *Hedwigia* and *Grimmia* usually grow in rock crevices and on the rock surfaces where their rhizoids penetrate the small cracks, thus hastening disintegration of the rocks into soil. There are several aquatic genera, such as *Fontinalis*, *Dicelyma*, and *Drepanocladus*, which are attached to rocks and wood in streams and lakes. Many other mosses are characteristic of the moist cool forest among which are *Mnium*, *Bryum*, and numerous species in the Hypnaceae.

The remains of mosses accumulate as humus on bare rock surfaces, in the upper layers of sterile soil exposed by fire, road building, logging, and farming, and in the bottom of bogs. Many ferns, herbs, shrubs, and trees become established in the soils improved by the mosses. Thus the pioneer mosses pave the way for the larger plants and bring about their own downfall.

*Sphagnum* growing in mats held together by the roots of sedges and shrubs contribute to the filling of lake basins with peat as they continually grow above and die below. *Sphagnum* mats are present at the south end of Deer Lake, in a bog one-fourth mile south of Wolf Lake, and also surrounding Lodo Pond.

The species in the following list are included on the basis of material preserved in the Herbarium of the New York State College of Forestry and in the Herbarium of the New York State Museum. Abbreviations "CF" and "NYS" in the annotations, indicate the respective herbaria in which the specimens so named are deposited.

The order of families and the nomenclature are that of Grout (1928-1939) with three exceptions as noted in the list. Synonyms are included to make the list referable to "*Mosses with Hand-lens and Microscope*" (Grout, 1903), abbreviated to MHM in the annotations, which is a more readily usable publication for students with only a casual interest in mosses.

The numbered species and varieties include those collected from

within the Forest boundaries or presumably occurring within the Forest since they were found only a few miles distant. Two of the 79 species, three varieties, and two forms included in the list are worthy of special mention. *Tortella nitida* has been reported from two other areas in North America and *Plagiothecium undulatum* has been reported only in the western part of North America (Grout, 1928-1939).

In addition to the above mentioned items the annotations include the common name if one is in use, the substrata on which the species was growing, the general moisture conditions of the habitat, the relative amount of shade, and the time when the capsules mature.

This paper does not contain new names, name changes, or the descriptions of new segregates. All specific names are decapitalized.

## ANNOTATED LIST

### 1. SPHAGNACEAE<sup>1</sup>

#### *Sphagnum* (Dill.) L.

1. *Sphagnum capillaceum* (Weiss) Schrank PEAT MOSS.

On muck in open bogs where it forms short compact reddish tufts. Occasional.

CF.

2. *Sphagnum fuscum* (Schimp.) H. Klinggr. PEAT MOSS.

On muck in open bogs where it grows in dense brownish mats. Occasional.

CF.

3. *Sphagnum girgensohnii* Russow PEAT MOSS.

On muck in open bogs where it grows in loose green to slightly yellow or brown mats with the bog heaths. Occasional.

CF.

4. *Sphagnum recurvum* Beauv. PEAT MOSS.

On muck in low areas in open bogs and in very wet cool places in the woods in loose, deep, pale green tufts. Common.

CF.

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<sup>1</sup> The author is very grateful to Miss Irma Schnooberger for determinations of all Sphagnaceae. A treatment of the family is not included in Grout 1928-1939.

5. *Sphagnum squarrosum* Crome

PEAT MOSS.

On muck in wet swampy areas and along streams and wet cliffs in deep shade in loose bright green to yellowish tufts. Common.

CF.

## 2. TETRAPHIDACEAE

*Tetraphis* Hedw.1. *Tetraphis pellucida* Hedw.*Georgia pellucida* of MHM.

On decaying wood and humus in cool, moist, shaded woods. Matures in spring to early summer and the capsules persist for about a year. This is the only common moss on the Forest with a peristome of four teeth.

CF; NYS.

## 3. DITRICHACEAE

*Ceratodon* Brid.1. *Ceratodon purpureus* (Hedw.) Brid.

Moist roadsides, paths, and banks where the soil has been compacted, and occasionally on dry, sandy, exposed soil. Matures in late spring and often by late summer the capsules are decayed beyond recognition.

CF; NYS.

*Trematodon* Mx.1. *Trematodon ambiguus* (Hedw.) Hornsch.

LONG-NECKED MOSS.

On well-drained dry sandy soil along roads and occasionally on decaying logs in or near openings. Matures in summer. The capsule has an inflated neck as long as the urn and the seta is bright yellow.

CF.

## 4. DICRANACEAE

*Dicranella* Schimp.1. *Dicranella heteromalla* (Hedw.) Schimp.

Roadside near Newcomb, collection of J. L. Lowe. Matures in late fall and winter.

CF.

**Dicranum** Hedw.

1. **Dicranum bonjeani** DeNot.

On ground in small swampy places under shade or in open swamps. Matures in late summer and early fall.

NYS.

2. **Dicranum flagellare** Hedw.

On decaying wood and humus in moist woods, swamps, and moderately open areas. Matures in late summer.

CF; NYS.

3. **Dicranum fulvum** Hook. var. **viride** (Sull. & Lesq.) Grout

*Dicranum viride* of MHM.

On decaying wood in moist woods. Matures in fall. The ends of the leaves are nearly always broken off.

4. **Dicranum fuscescens** Turn.

On decaying wood, base of trees, and humus in moist shady woods and swampy places. Matures in fall. An unusually smooth-leaved form was collected by H. D. House, July 11, 1927 from the Hall Swamp at Newcomb.

CF; NYS.

5. **Dicranum scoparium** (L.) Hedw.

On boulders, decaying wood, and soil in moist woods. Especially common along creeks. Matures in late summer and fall.

CF; NYS.

**Oncophorus** Brid.

1. **Oncophorus wahlenbergii** Brid.

On decaying wood in cool shaded places. Matures in spring.  
NYS.

2. **Oncophorus virens** (Sw.) Brid.

On decaying wood along streams in cool woods. Matures in spring.  
NYS.

**Paraleucobryum** (Lindb.) Loeske1. **Paraleucobryum longifolium** (Hedw.) Loeske*Dicranum longifolium* of MHM.

On rocks and decaying logs near creeks in moist woods. Matures in summer.

CF; NYS.

## 5. LEUCOBRYACEAE

**Leucobryum** Hampe1. **Leucobryum glaucum** (Hedw.) Schimp. THE WHITE MOSS.

On partially decayed organic material in dry to moist and even swampy woods. Rarely fruiting, but when it does the capsules mature in autumn and persist through the winter. The plants grow in grayish-white pincushion-like tufts.

CF.

## 6. POLYTRICHACEAE

**Atrichum** Beauv.1. **Atrichum undulatum** (Hedw.) Beauv. WAVY CATHARINEA.*Catharina undulata* of MHM.

On sandy well-drained soil with a high clay content in clearings, along roads, and in areas where the soil has been recently disturbed. The capsules mature in early fall and persist throughout the winter.

CF.

**Pogonatum** Beauv.1. **Pogonatum pensilvanicum** (Hedw.) Paris*Pogonatum brevicaulis* of MHM.

On bare moist sandy loam along roads. Matures in late autumn. The plants grow singly and somewhat scattered with the soil between them covered with a mass of green felt-like protonema. The spelling of the specific name is that used originally by Hedwig.

CF.

**Polytrichum** Hedw.1. **Polytrichum commune** Hedw. COMMON HAIR-CAP.

On moist soil, rocks, stumps, and humus along roads and in moderately open areas in the forest. Very common. Matures in mid-summer. Leaf margins serrate; capsule cubical; operculum with a short beak.

CF; NYS.

2. **Polytrichum juniperinum** Hedw. JUNIPER HAIR-CAP.

On moist soil and humus, along roads, in clearings and abandoned camp sites in little or no shade. Common. Matures in mid-summer. Leaf margins entire and infolded.

CF.

3. **Polytrichum ohioense** Ren. & Card. OHIO HAIR-CAP.

On moist decaying wood and soil in swamps and moderately shaded areas. Infrequent. Matures in early summer. Leaf margins serrate; capsule longer and the operculum with a longer beak than in *P. commune*.

NYS.

## 7. POTTIACEAE

**Tortella** (C. Müll.) Limpr.1. **Tortella nitida** (Lindb.) Broth.

Forming a dense even tuft on a rock in Lake Harris. Very rare. Reported from two other areas in North America, Canada and Montana. Matures in early summer.

NYS.

## 8. GRIMMIACEAE

**Grimmia** Ehrh.1. **Grimmia apocarpa** (L.) Hedw.

Growing in small, loose, dark green to blackish tufts on boulders along the shore of Lake Harris. Matures in early summer.

NYS.

**Hedwigia** Ehrh.1. **Hedwigia ciliata** (Ehrh.) Hedw.

*Hedwigia albicans* of MHM.

On boulders in cool moist places, especially near lake shores. Matures in spring.

NYS.

1a. forma **viridis** (Bryol. Eur.) G. N. Jones

On rocks in cool moist woods. Differs from the species by having more slender stems and leaves scarcely hyaline at the tip.

NYS.



## 9. FUNARIACEAE

**Funaria** (Schreb.) Hedw.

1. **Funaria hygrometrica** (L.) Hedw. CORD MOSS

On moist sandy and loamy exposed soil along roads, in clearings, and other areas where the soil has been disturbed. Very common. Matures in late summer.

CF; NYS.

## 10. ORTHOTRICHACEAE

**Orthotrichum** Hedw.

1. **Orthotrichum stellatum** Brid.

*Orthotrichum strangulatum* of MHM.

Plants in small dense cushions on tree trunks in moist shady areas. Matures in late spring.

NYS.

**Ulota** Mohr.

1. **Ulota crispa** (Hedw.) Brid. CRISPED ULOTA

Plants in small dense cushions on the rough bark of deciduous trees in moist areas. Matures in spring to early summer.

CF; NYS.

2. **Ulota ludwigii** Brid. PUCKERED ULOTA.

Plants in small tufts on the bark of nearly all kinds of trees in somewhat more open areas than the preceding species. Matures in autumn.

NYS.

## 11. AULACOMNIACEAE

**Aulacomnium** Schwaegr.

1. **Aulacomnium palustre** (Web. & Mohr.) Schwaegr. RIBBED BOG MOSS.

On ground in wet depressions in shaded places. Matures in early summer.

NYS.

12. BARTRAMIACEAE

**Bartramia** Hedw.

1. **Bartramia pomiformis** (L.) Hedw. THE APPLE MOSS.

On rocks and sandy soil in wet shaded places. Matures in April and May. Collected near Lake Sanford.

NYS.

13. BRYACEAE

**Bryum** L.

1. **Bryum cuspidatum** (Br. & Sch.) Schimp.

*Bryum affine*, in part, of MHM.

On moist decaying wood and soil. Matures in early summer.

NYS.

2. **Bryum pseudotriquetrum** (Hedw.) Schwaegr.

Includes *Bryum bimum* and *Bryum pseudotriquetrum* of MHM.

*Bryum bimum* of Grout (1928-1939).

On soil and rocks in wet swampy places. The capsules mature in summer. *B. pseudotriquetrum* is in accord with the 1930 rules agreed upon by the International Botanical Congress at Cambridge.

NYS.

3. **Bryum turbinatum** (Hedw.) Schwaegr.

On ground in moist woods. The capsules mature in early summer.

NYS.

4. **Bryum uliginosum** (Brid.) Br. & Sch.

*Bryum cernuum* of Grout (1928-1939).

On decaying wood and wet ground in swampy places. Matures in late summer. *B. uliginosum* is in accord with the 1930 rules agreed upon by the International Botanical Congress at Cambridge.

NYS.

5. **Bryum weigelii** Spreng.

*Bryum duvalii* of MHM.

On ground along creeks and in very wet shaded places. Matures in summer.

NYS.

**Pohlia** Hedw.1. **Pohlia elongata** Hedw.

On soil, rocks, and decaying wood in swamps, wet crevices, and near streams in shaded places. Matures in late summer.

CF; NYS.

[**Pohlia nutans** (Schreb.) Lindb.

Collected by C. H. Peck from rocks in Indian Pass. Matures in summer. *P. nutans* probably occurs on the Huntington Forest as it is common in our latitude growing on a variety of substrata.

NYS.]

**Rhodobryum** (Schimp.) Limpr.1. **Rhodobryum roseum** (Weis) Limpr. GIANT BRYUM.

On decaying wood, soil, rocks, and bark of living trees in moist shady places. Matures in late fall and early winter.

CF.

## 14. MNIACEAE

**Mnium** L.1. **Mnium affine** Bland. TOOTHED MNIMUM.

On soil, boulders, decaying wood, and humus, along creeks and in other very wet shaded places. Matures in spring. The serrations on the leaf are variable in this species which has led to the separation of several varieties. The specimens of two collections, 961 and 1681 of the writer, have leaves toothed to the base with teeth of mostly 2-4 cells. This has been named var. *ciliare* (Grav.) C. M. by some authors. The other extreme, collected by H. D. House, July 11, 1927, with few or no teeth on the leaves, has been named var. *rugicum* (Laur.) Br. & Sch. These forms intergrade to such an extent that separation is impractical.

CF; NYS.

2. **Mnium cuspidatum** (L.) Leyss. WOODSY MNIMUM.

On decaying wood and soil in moist woods and moderately open areas. Matures in spring and early summer.

NYS.

3. **Mnium punctatum** (L.) Hedw. EARLY MNIMUM.

On rocks, humus, and decaying logs, in very moist areas and deep

shade in mixed hardwood forest, in swamps, and along creeks. Common. Matures in early spring.

CF.

3a. var. **elatum** Schimp.

On rocks, humus, and decaying wood along streams in deep shade. Occasional. This variety is usually sterile and differs from the species by having leaves up to 1.3 cm. long.

CF; NYS.

4. **Mnium spinulosum** Br. & Sch.

RED-MOUTHED MNIMUM.

On soil and decaying wood in cool moist coniferous woods. Matures in early summer.

CF; NYS.

15. HYPNACEAE

**Amblystegium** Br. & Sch.

1. **Amblystegium varium** (Hedw.) Lindb.

On soil, stones, and decaying wood, in moist shaded places and swamps. Matures in spring.

NYS.

2. **Amblystegium serpens** (L.) Br. & Sch.

On soil, stones, and decaying wood, in moist shaded places. Matures in spring. On sidewalk at Arbutus Lake Headquarters.

CF; NYS.

**Brachythecium** Br. & Sch.

1. **Brachythecium populeum** (Hedw.) Br. & Sch.

On boulders and trunks of trees in moist woods. Matures in late fall.

NYS.

2. **Brachythecium salebrosum** (Hoffm.) Br. & Sch.

On decaying wood, trunks of trees, and stones in moist woods. Matures in autumn.

CF; NYS.

**Brotherella** Loeske

1. **Brotherella recurvans** (Mx.) Fleisch.

*Hypnum recurvans* of MHM.

On soil, humus, decaying wood, and base of trees in moist areas with moderate to deep shade. Matures in late fall.

CF; NYS.

**Calliergon** (Sull.) Kindb.1. **Calliergon cordifolium** (Hedw.) Kindb.

On soil and humus in swamps and very wet places in the woods. Matures in early summer.

NYS.

**Calliergonella** Loeske1. **Calliergonella schreberi** (Willd.) Grout. SCHREBER'S MOSS.

*Calliergon schreberi* of MHM.

On soil and decaying organic material, in swamps and moist partially shaded places. Matures in autumn. Schreber's moss, one of our common mosses, is somewhat irregularly pinnately branched and forms loose deep cushions.

NYS.

**Camptothecium** Br. & Sch.1. **Camptothecium nitens** (Schreb.) Schimp.

On soil and organic material in swampy places. Matures in summer.

NYS.

**Climacium** Web. & Mohr.1. **Climacium dendroides** (L.) Web. & Mohr.

On wet soil along streams and other moist places in deep shade. Matures in autumn. This is a large erect moss that resembles small trees in its habits of branching.

CF.

2. **Climacium kindbergii** (R. & C.) Grout

On wet rocks, mucky, and sandy soil, along creeks and swamps often in shallow water. Matures in autumn.

NYS.

**Drepanocladus** (C. Muell.) Roth1. **Drepanocladus aduncus** (Hedw.) Warnst. forma **aquaticus** (Sanio) Moenkem.

Attached to mucky bottom in shallow water at the west end of Rich Lake. Matures in summer.

CF.

2. **Drepanocladus fluitans** (L.) Warnst.

Aquatic with ascending or floating stems and attached in muck bottoms of ponds and lakes. Scarce. Matures in summer.

CF.

3. **Drepanocladus uncinatus** (Hedw.) Warnst.

On rocks, soil, tree trunks, and decaying wood mixed with other mosses in moist cool shaded places. Matures in spring.

NYS.

**Heterophyllum** (Schimp.) Kindb.

1. **Heterophyllum haldanianum** (Grev.) Kindb.

*Hypnum haldanianum* of MHM.

On soil, humus, rocks, decaying wood, and base of trees in open to deep shaded moist places. Common. Matures in late fall.

CF; NYS.

**Hygroamblystegium** Loeske

1. **Hygroamblystegium fluviatile** (Sw.) Loeske

*Amblystegium fluviatile* of MHM.

Covering boulders in moist woods and in shaded streams. Matures in early summer.

NYS.

**Hygrohypnum** Lindb.

1. **Hygrohypnum eugyrium** (Br. & Sch.) Loeske

Forming dense mats on boulders in streams in deep woods. Matures in late spring to early summer.

NYS.

**Hylocomium** Br. & Sch.

1. **Hylocomium splendens** (Hedw.) Br. & Sch.

THE MOUNTAIN FERN MOSS.

*Hylocomium proliferum* of MHM.

On soil, humus, rocks, and decaying wood in swamps and moist woods. Matures in spring.

NYS.

**Hypnum** L.

1. **Hypnum crista-castrensis** L.

On soil, rocks, humus, decaying wood, and base of trees in swamps and cool moist woods. Matures in autumn.

NYS.

2. **Hypnum cupressiforme** L.

On decaying wood, rocks, and soil in moist shaded places. Matures in autumn.

CF.

3. **Hypnum fertile** Sendt.

On decaying wood, humus, and base of trees in cool moist shaded places. Matures in late spring to early summer.

NYS.

4. **Hypnum reptile** Mx.

On bases of trees and decaying wood in cool moist shaded places. Matures in summer.

CF.

**Plagiothecium** Br. & Sch.1. **Plagiothecium denticulatum** (L.) Br. & Sch.

On humus, rocks, and decaying wood in swamps and moist shaded places. Matures in summer.

NYS.

2. **Plagiothecium turfaceum** (Lindb.) Lindb.

On rocks, humus, and decaying wood in cool moist shaded places. Matures in summer.

CF.

3. **Plagiothecium undulatum** (L.) Br. & Sch.

On decaying wood in a swamp near Newcomb, H. D. House, July 15-30, 1920. This specimen was determined by R. S. Williams and his determination checked by the author. A. J. Grout (1928-1939) lists the species as occurring only in the Pacific Coast region from California to British Columbia.

**Pylaisia** Br. & Sch.1. **Pylaisia intricata** (Hedw.) Sch.

On decaying wood and bark of trees in swamps and moist woods. Matures in late summer.

NYS.

2. **Pylaisia polyantha** (Schreb.) Br. & Sch.

On trunks of living trees in cool moist places. Matures in late autumn.

NYS.



**Rhytidiadelphus** (Lindb.) Warnst.

1. **Rhytidiadelphus squarrosus** (L.) Warnst.

*Hylocomium squarrosus* of MHM.

On soil, rocks, humus, and decaying wood in cool shady places and in swamps. Matures in early winter.

CF.

2. **Rhytidiadelphus triquetrus** (L.) Warnst. SHAGGY MOSS.

*Hylocomium triquetrum* of MHM.

On soil and humus in moist shaded places. Matures in early winter.

NYS.

**Scorpidium** (Schimp.) Limpr.

1. **Scorpidium scorpioides** (L.) Br. & Sch.

In shallow water along mud banks and in bog-like places. Matures in summer.

NYS.

16. LESKEACEAE

**Anomodon** Hook. & Taylor

1. **Anomodon rugelii** (C. Muell.) Keissl.

*Anomodon apiculatus* of MHM.

On decaying wood and bark of trees in moist woods and swamps. Matures in autumn.

NYS.

**Thuidium** Br. & Sch.

1. **Thuidium delicatulum** (L.) Mitt. FERN MOSS.

On soil, humus, rocks, and decaying wood in cool moist shaded places. Matures in autumn.

CF.

17. NECKERACEAE

**Homalia** (Brid.) Br. & Sch.

1. **Homalia jamesii** Schimp.

On trunk of trees and ledges in cool moist shaded places. Matures in autumn.

NYS.

**Neckera** Hedw.1. **Neckera pennata** (L.) Hedw.

On the bark of living deciduous trees in cool moist shaded places. Matures in summer.

NYS.

## 18. FONTINALACEAE

**Dichelyma** Myr.1. **Dichelyma capillaceum** (Dill.) Br. & Sch.

Attached to rock in shallow water near the north end of Catlin Lake; very rare. Matures in summer.

CF.

**Fontinalis** (Dill.) Myr.1. **Fontinalis antipyretica** (L.) Hedw.

WATER MOSS.

Attached to rocks in streams. Matures in summer.

NYS.

1a. var. **gigantea** Sull.

Attached to rocks in running water in shaded places. This variety is more robust with leaves more closely imbricate and more broadly obtuse than the species.

CF; NYS.

2. **Fontinalis lescurii** Sull.

Attached to rocks in shallow water in Wolf, Deer, and Arbutus lakes. Rare. Matures in summer.

CF.

3. **Fontinalis novae-angliae** Sull.

Attached to rocks and logs in shallow water of lakes and streams. Occasional. Matures in summer.

CF.

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